(19) World Intellectual Property Organization International Bureau



1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88) 1 (88)

(43) International Publication Date 30 October 2003 (30.10.2003)

PCT

(10) International Publication Number WO 03/089762 A1

(51) International Patent Classification⁷: E21C 25/16, 27/12, 27/24

E21D 9/10,

(21) International Application Number: PCT/AU03/00473

(22) International Filing Date: 22 April 2003 (22.04.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: PS 1868

22 April 2002 (22.04:2002) AU

- (71) Applicant (for all designated States except US): ODYSSEY TECHNOLOGY PTY LTD [AU/AU]; Room S217, Level 2, Hawken Engineering Building, Staff House Road, University of QUEENSLAND, St. Lucia, QLD 4072 (AU).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): SUGDEN, David, Burnet [AU/AU]; 33 Kingston Heights, Kingston Beach, TAS 7050 (AU).
- (74) Agent: BALDWIN SHELSTON WATERS; 60 Margaret Street, Sydney, NSW 2000 (AU).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patenti (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

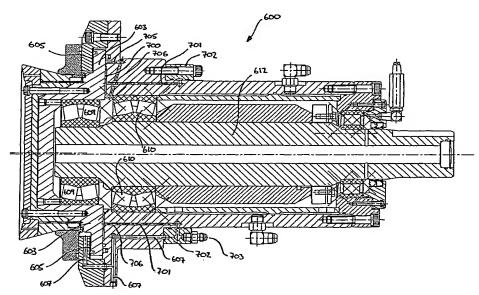
of inventorship (Rule 4.17(iv)) for US only

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: OSCILLATING DISC CUTTER WITH SPEED CONTROLLING BEARINGS



(57) Abstract: An oscillating disc cutter (10) including a cutting disc (602) and a drive mechanism. The drive mechanism including a drive shaft (612) to effect eccentric oscillation of the cutting disc and a radial bearing (609) disposed to permit relative rotation between the drive shaft and the cutting disc. The cutter further including a hydrostatic axial bearing (700) disposed to react axial forces while accommodating induced rotation of the cutting disc when operatively engaged and to induce a rotational drag thereby limiting rotational peed of the cutting disc when free running. A water pressurised fluid bearing (605) induces a predetermined axial load in the hydrostatic bearing such that a predetermined maximum running clearance in the hydrostatic bearing is maintained.



7O 03/089762 A